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CENTRAL INTELLIGENCE AGENCY

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ELECTRIC POWER TRANSMISSION
AND TELEPHONE NETWORK IN NORTHWEST KOREA

Comment: The following two charts and four tables show the electric power and telephone networks in northwest Korea under the administration of the P'yongyang Transmission Department. They are reproduced from an undated blueprint, published by the Bureau of Electricity Administration of the Democratic People's Republic of Korea, entitled, "Summary of P'yongyang Transmission Department's Maintenance Districts and Telephone Network."

Chart No 1 shows the maintenance offices for the high-tension power lines extending from the 38th Parallel to P'yongyang northward to the Sup'ung Power Plant, and southwestward along the Korean-Manchurian Border to Tasado. Eastward from P'yongyang the lines extend to the Ch'angjin Power Plant No 2.

Chart No 2 shows the telephone network under the jurisdiction of the P'yongyang Transmission Department. The maintenance offices for this telephone system are generally located in the same towns or villages as are those of the electric power system.

The four tables which precede the charts give additional information on the equipment of the power and telephone lines. A list of place names mentioned in the charts and tables with their geographical coordinates, has been added to show, where identifiable, the approximate location of each maintenance station. Figures in tables and charts have been reproduced from the blueprint. No attempt has been made to reconcile apparent discrepancies between the tables and the charts.

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ARMY	<input checked="" type="checkbox"/>	AIR	<input checked="" type="checkbox"/>	FBI															

TABLE 1. PYONGYANG TRANSMISSION DEPARTMENT POWER LINES

NAME OF LINE	SECTION TERMINALS		VOLTAGE (KV)	EXACT LENGTH (KM)	ELECTRIC WIRE*	
	FROM	TO			MATERIAL	THICKNESS (MM)
NO 1 PYONGYANG	HAECH'ON	NO 1 PYONGYANG	154	149.9	STEEL CORE ALUMINUM	ST 7/3.1** AL 30/3.1
SEOUL	NO 1 PYONGYANG	38TH PARALLEL (SEOUL)	154	135.5 (187.5)	STEEL CORE ALUMINUM	ST 7/2.9 AL 30/2.9
NO 2 PYONGYANG	SUP'UNG	NO 2 PYONGYANG	220	179.5	STEEL CORE ALUMINUM	ST 7/2.82 AL 54/2.82
UNSAN	SONGYANG	UNSAN	154	60.3	STEEL CORE ALUMINUM	ST 7/3.1 AL 30/3.1
NAMP'U	NO 2 PYONGYANG	NAMP'U	220	39.5	STEEL CORE ALUMINUM	ST 7/2.82 AL 54/2.82
TASADO	SUP'UNG	TASADO	220	74.9	STEEL CORE ALUMINUM	ST 7/2.82 AL 54/2.82
CONNECTING LINE	NO 1 PYONGYANG	NO 2 PYONGYANG	154***	17.3	BARE HEAVY COPPER	19/4

* POWER LINES ARE CARRIED ON STEEL TOWERS.

** ST 7/3.1 AL 30/3.1 MEANS SEVEN STEEL STRANDS, EACH OF WHICH IS 3.1 MILLIMETERS THICK, AND 30 ALUMINUM STRANDS, EACH OF WHICH IS 3.1 MILLIMETERS THICK.

*** AT PRESENT, 66 KILOVOLTS ARE TRANSMITTED.

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TABLE 2. PYONGYANG TRANSMISSION DEPARTMENT TRANSFORMERS

NAME OF TRANSFORMER STATION	POWER OUTPUT (KVA)	DESCRIPTION OF TRANSFORMER			
		POWER PER TRANSFORMER (KVA)	PHASE	PRIMARY VOLTAGE (KV)	SECONDARY VOLTAGE (KV)
No 1 PYONGYANG					
SET A	90,000	15,000x7*	1	154	66
SET B	1,500	500x3*	1	11	3.3
SET C	2,250	750x3*	1	66	3.3
No 2 PYONGYANG					
SET A	200,000	100,000 $\sqrt{2}$	3	220	66
SET B	3,500 $\sqrt{3} \cdot \sqrt{2}$	1,350x4*	1	66	22
SET C	900	300x3	1	22	3.3
UNSAO					
SET A	34,500	19,500x1 15,000x1	3 3	154 154	66 66
SET B	1,200	400x3	1	22	3.3
NAMPYO	100,000	100,000 $\sqrt{2}$ $\sqrt{1}$	3	220	66
TASADO	200,000	100,000x2	3	220	66

* ONE TRANSFORMER IN EACH SET IS HELD IN RESERVE. $\sqrt{2}$ ALTHOUGH THE SOURCE STATES THAT ONE TRANSFORMER EACH IN SETS B AND C IS HELD IN RESERVE, IT APPEARS FROM THE OUTPUT FIGURES THAT THE RESERVE TRANSFORMERS ARE IN USE.

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TABLE 3. PYONGYANG TRANSMISSION DEPARTMENT TELEPHONE LINES

NAME OF LINE	SECTION TERMINALS		EXACT LENGTH (KM)	NO OF CIRCUITS	TELEPHONE WIRE	
	FROM:	TO:			KIND OF MATERIAL	THICKNESS (MM)
No 1 PYONGYANG	HAGICH'ON	PYONGYANG	217.8	2	BARE HEAVY COPPER GALVANIZED IRON WIRE	3.2 4
SEOUL	PYONGYANG	SEOUL	219.1	2	BARE HEAVY COPPER GALVANIZED IRON WIRE	3.2 4
No 2 PYONGYANG	SUP'UNG	No 2 PYONGYANG	195.4	2	BARE HEAVY COPPER GALVANIZED IRON WIRE	3.2 4
UNSAN	SONGYONG	UNSAN	70.2	2	STEEL CORE ALUMINUM GALVANIZED IRON WIRE	ST. 1/1.8 AL. 7/1.8 4
NAMP'Ŏ	No 2 PYONGYANG	NAMP'Ŏ	42.5	2	BARE HEAVY COPPER GALVANIZED IRON WIRE	3.2 4
TASADO	SUP'UNG	TASADO	81.3	2	BARE HEAVY COPPER GALVANIZED IRON WIRE	3.2 4
CONNECTING LINE	No 2 PYONGYANG	No 1 PYONGYANG	20.8	3	STEEL CORE ALUMINUM	ST. 1/1.8 AL. 6/1 3.2 MM 4MM

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Under P'yongyang Transmission Department

<u>District and Station</u>	<u>Tower Numbers</u>	<u>Distance (km)</u>	<u>Transmission Line</u>
<u>Songyang District</u>			
Hagich'on	1-18	6.00	No 1 P'yongyang Transmission Line
Sinp'ung	19-47	9.00	
Tokko-ri	48-75	8.00	
Chunghung	76-102	8.00	
Sach'ang-ni	103-123	7.00	
Inch'o-ri	124-155	9.00	
Onyang-ni	156-200	13.00	
Samgo-ri	201-231	11.00	
Yongwon	232-289	15.00	
Songyang	270-330	13.00	
<u>No 1 P'yongyang District</u>			
Pukch'ang	331-381	14.05	No 1 P'yongyang Transmission Line
Kach'ang-ni	382-415	12.45	
Sinch'ang-ni	416-470	19.05	
Yongt'aeng-ni	471-514	14.85	
Kwangdong-ni	515-568	18.35	
Nosan-ni	569-610	16.25	
P'yongyang	611-622	4.54	
<u>No 1 P'yongyang District</u>			
P'yongyang	1-36	10.20	Seoul Transmission Line
Majang-dong	37-96	18.80	
Yu-ri	97-130	12.40	
Tumu-ri	131-156	11.80	
Sindang-ni	157-189	19.50	

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<u>District and Station</u>	<u>Tower Numbers</u>	<u>Distance (km)</u>	<u>Transmission Line</u>
<u>No 1 P'yongyang District</u>			
Chungch'ong	190-212	8.20	Seoul Transmission Line
Nogan-ni	213-243	11.70	
<u>Namch'on Switching Station District</u>			
Namch'on	244-280	14.00	
Wonu-dong	281-311	12.00	
Kilsu-ri	312-337	12.00	
Hwajang	338-357	11.00	
Kyongnung	358-406	16.10	
Munsan	407-456	15.80	
Kwansan	457-504	15.60	
Susaeng-ni	505-526	7.90	
<u>No 2 P'yongyang District</u>			
Sup'ung	1-13	5.00	No 2 P'yongyang Transmission Line
Sakchu	14-34	8.00	
Onp'ung-dong	35-53	8.00	
Ch'angsindong	54-82	11.00	
Tae'an-dong	83-113	12.00	
Ch'onjin-dong	114-134	8.00	
Kusong	135-167	12.00	
Naeha-dong	168-197	10.00	
T'aech'on	198-226	12.00 *	
Pakch'on	8-54	18.20 **	
Yongni	227-271	16.00 ***	
Mansong	272-317	16.00 ****	
Sukch'on	318-354	16.20	

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<u>District and Station</u>	<u>Tower Numbers</u>	<u>Distance (km)</u>	<u>Transmission Line</u>
<u>No 2 P'yongyang District</u>			
Sogam	365-389	13.30	No 2 P'yongyang Transmission Line
Yongjang	390-437	13.00	
Choch'on	438-462	6.80	
<u>Unsan District</u>			
Songyang	1-20	7.00	Unsan Transmission Line
Tokch'on	21-49	12.60	
Somin-dong	50-68	8.70	
Kujang-dong	69-112	15.80	
Kosong-dong	113-141	9.80	
Unsan	142-162	6.40	
<u>Namp'o District</u>			
Choch'on	1-11	4.70	Namp'o Transmission Line
Taep-yong	12-30	6.80	
Kiyang-ni	31-62	13.70	
Ipsong-ni	63-85	7.90	
Namp'o	86-102	6.40	
<u>Tasado District</u>			
Sup'ung	1-15	6.20	Tasado Transmission Line
Pup'yong-dong	16-23	6.80	
Toryong-dong	29-51	9.40	
Isong-dong	52-71	8.70	
Waryong-dong	72-95	10.40	
Uiju	96-115	7.90	
Ssanghak-tong	116-142	11.40 *****	
Ibam-dong	143-170	9.80	
Pukchung	171-175	4.50	

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<u>District and Station</u>	<u>Tower Numbers</u>	<u>Distance (km)</u>	<u>Transmission Line</u>
<u>Connecting Line</u>			
No 2 P'yongyang	1-28	6.50	Connecting Trans- mission Line
No 1 P'yongyang	29-64	10.50	

* Revised distance from No 128 to No 1 is 305 meters.

** Revised distance from No 8 to No 54 is 18.8 kilometers.

*** Revised distance from No 2 to No 85 is 2.6 kilometers.

**** Revised distance from No 55 to No 78 is 7.8 kilometers.

***** 11.20 kilometers, according to Chart No 1.

List of Place Names

	<u>Lat N</u>	<u>Long E</u>
Ch'angsin-dong	40 14	125 07
Ch'onjin-dong	40 03	125 14
Choch'on	39 02	125 40
Hwajang	38 04	126 39
Ibam-dong	40 01	124 26
Inch'o-ri	40 04	126 52
Ipsong-ni	38 50	125 26
Isong-dong	40 18	124 46
Kach'ang-ni	39 32	126 17
Kilsu-ri	38 09	126 35
Kiyang-ni	38 55	125 32
Kosong-dong	39 53	125 53
Kujang-dong	39 52	126 01
Kusong	39 59	125 15
Kwangdong-ni	39 12	125 57
Kwansan	37 42	126 52
Kyongnung	38 00	126 40

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	<u>Lat N</u>	<u>Long E</u>
Majang-dong	38 52	125 56
Mansong	39 30	125 35
Munsan	37 51	126 47
Naeha-dong	39 54	125 23
Naech-on	38 20	126 24
Nogan-ni	38 27	126 20
Nosan-ni	39 05	125 52
Onp'ung-dong	40 18	125 04
Onyang-ni	39 59	126 46
Pakch'on	39 44	125 35
Pukch'ang	39 35	126 20
Pukchung	39 57	124 26
Pup'yong-dong	40 23	124 54
P'yongyang No 1	39 01	125 44
P'yongyang No 2	39 00	125 46
Sach'ang-ni	40 06	126 55
Sakju	40 23	125 03
Sango-ri	39 59	126 23
Sinch'ang-ni	39 25	126 08
Sindang-ni	38 35	126 14
Sinp'ung	40 08	127 13
Somin-dong	39 53	126 10
Songyang-ni	39 24	125 31
Ssanghak-tong	40 00	124 32
Susaeng-ni	37 35	126 53
Sukch'on	39 25	125 37
Sup'ung	40 27	124 57
Tacan-dong	40 09	125 13
T'aech'on	39 55	125 30

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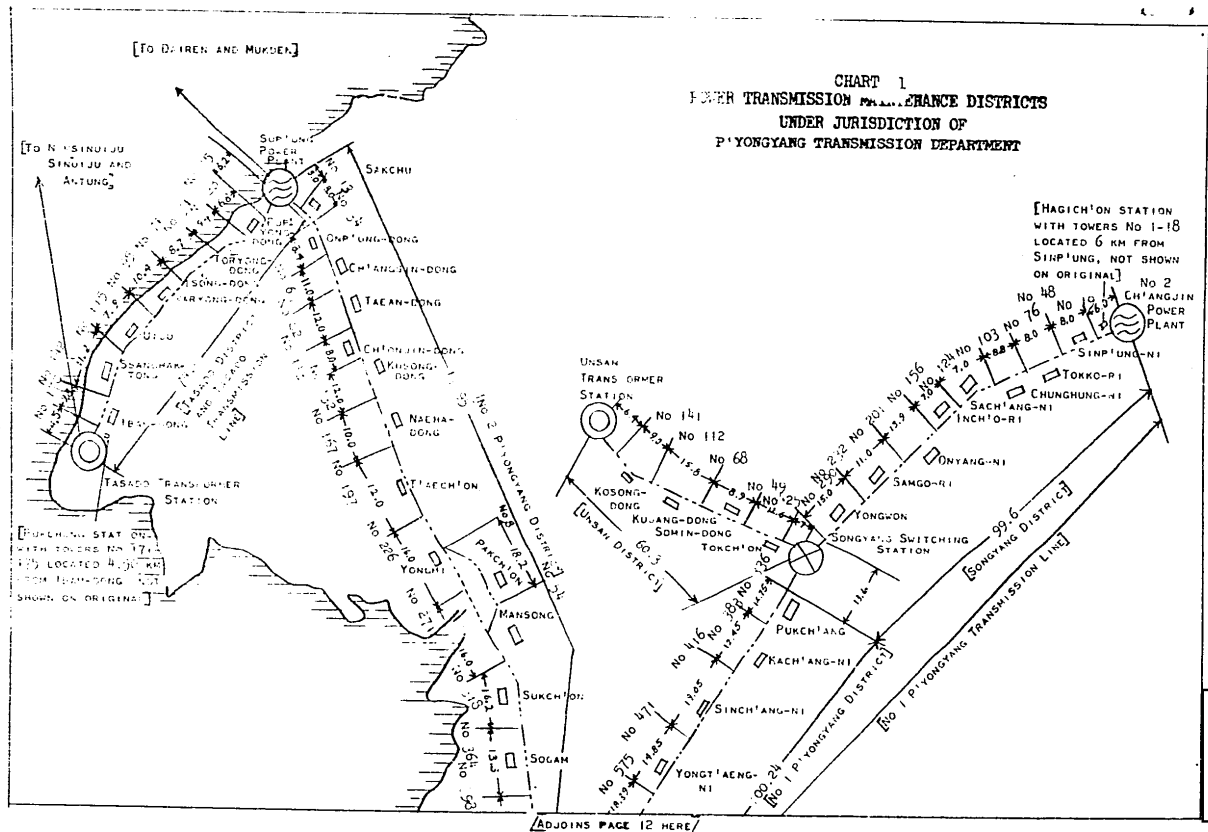
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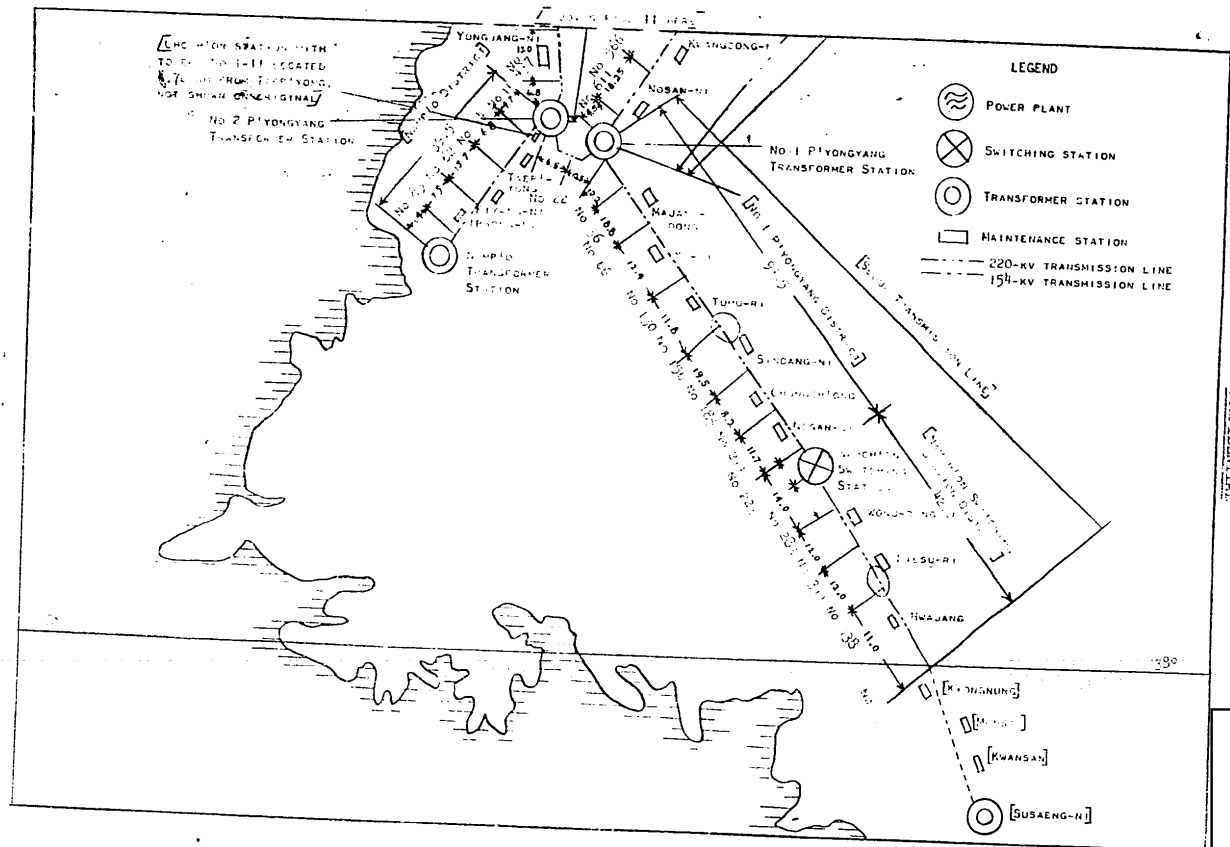
	<u>Lat N</u>	<u>Long E</u>
Taep'yong	38 59	125 37
Tasado	39 51	124 26
Tokch'on	39 45	126 18
Tokko-ri	40 07	127 08
Toryong	40 21	124 51
Tumu-ri	38 40	126 06
Uiju	40 12	124 32
Unsan	39 58	125 48
Waryong-dong	40 14	124 40
Wonu-dong	38 13	126 32
Yongjang-ni	39 29	125 30
Yongmi	39 40	125 31
Yongt'aeng-ni	39 19	126 04
Yongwon	39 35	125 52
Yu-ri	38 46	126 01

[See Chart 1 and Chart 2 on following pages.]

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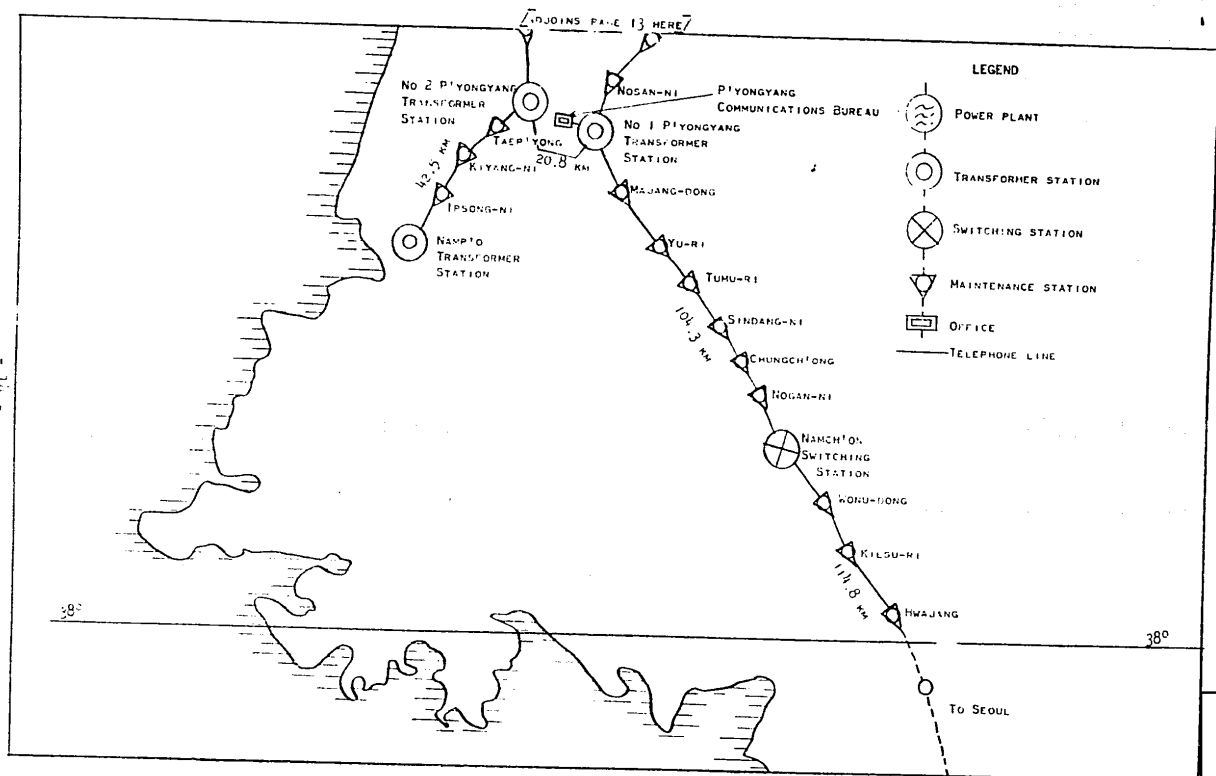
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Chart 1.

PYONGYANG TRANSMISSION DEPARTMENT

LEGEND



Power Plant



Switching Station



Transformer Station



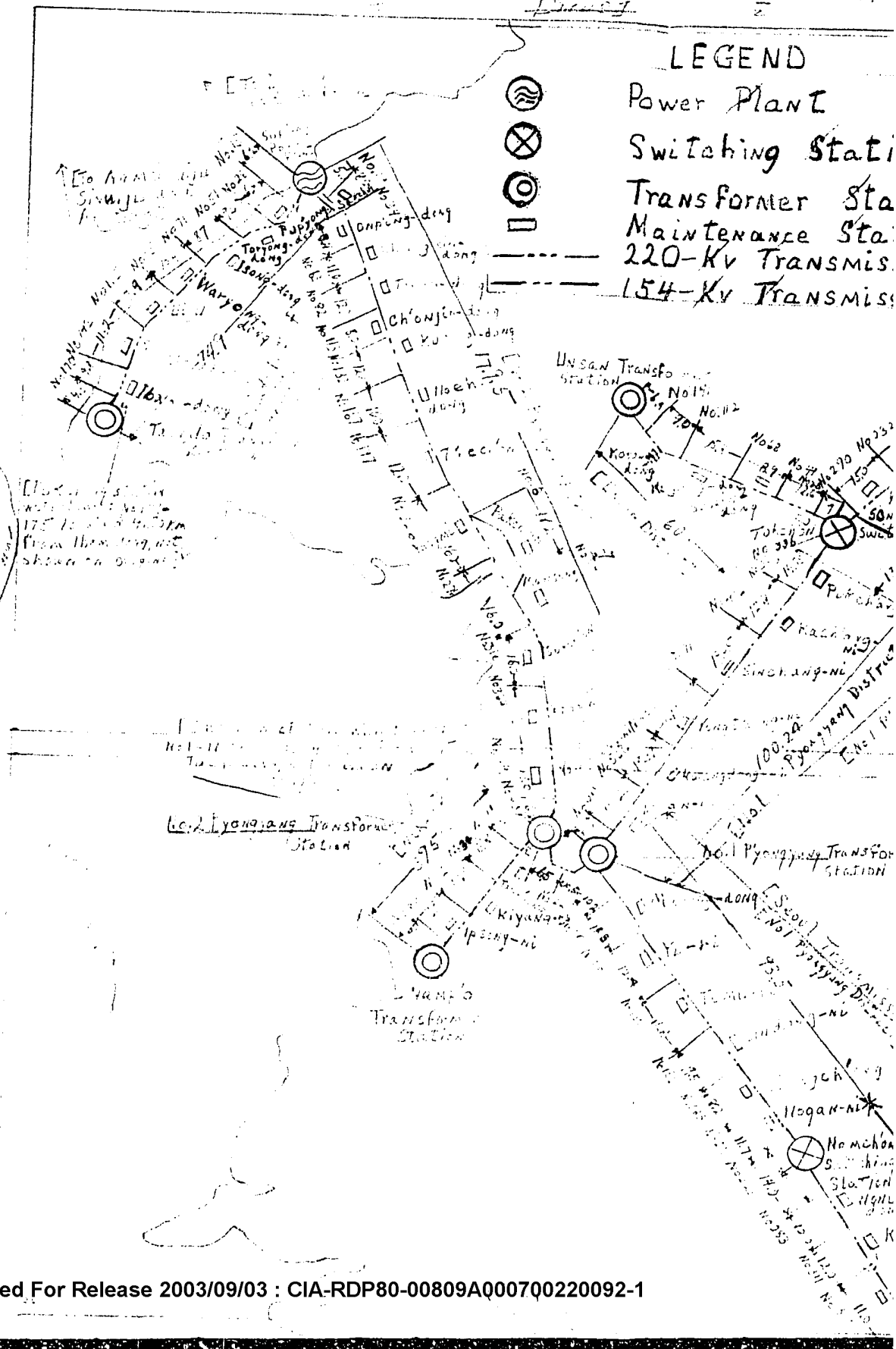
Maintenance Station



220-Kv Transmissi

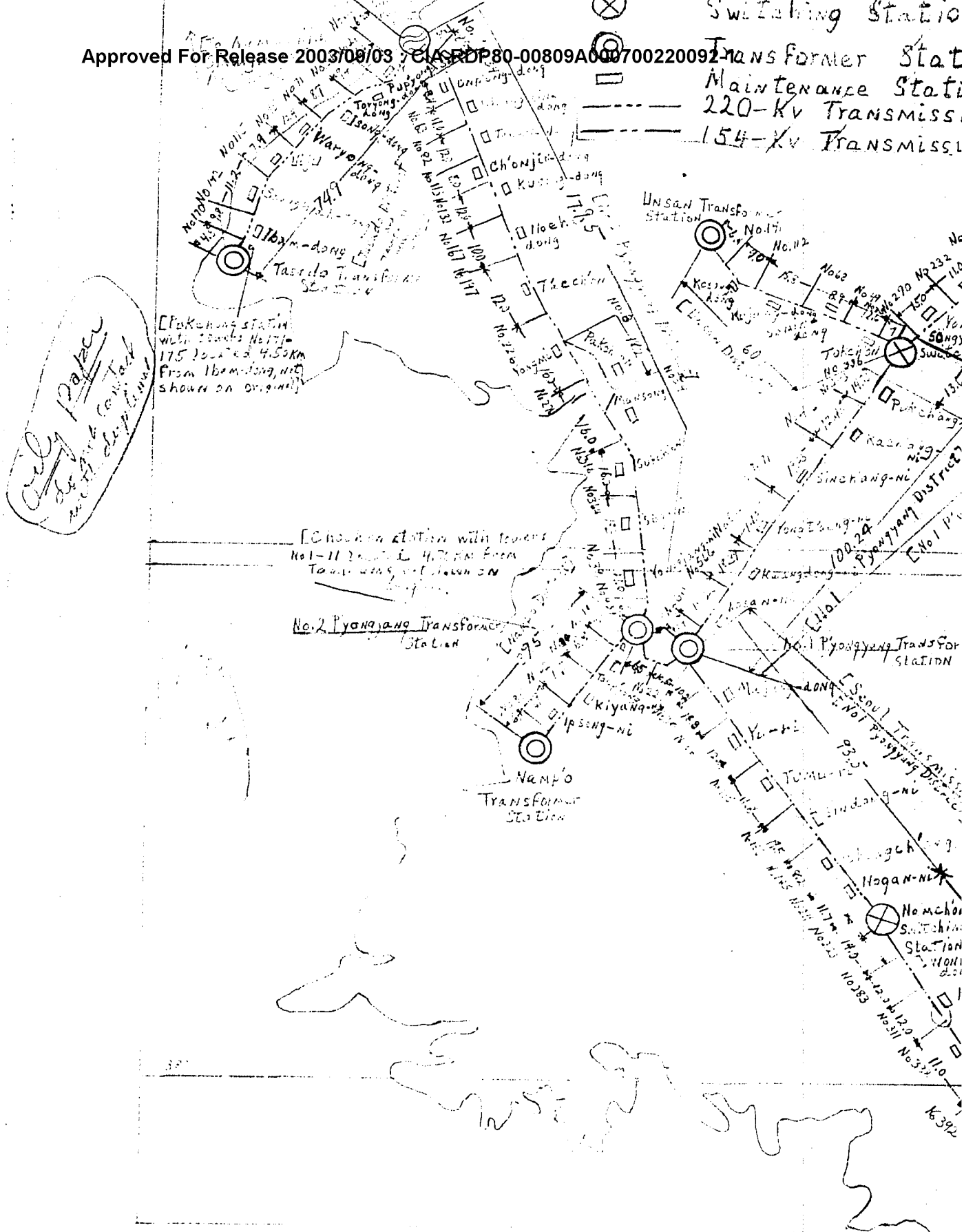


154-Kv Transmissi



Copy 1/2000
175 is a 4.5 km
from the station, not
shown on original

Switching Station
Transformer Station
Maintenance Station
220-KV Transmissi
154-KV Transmissi



LEGEND

Switching Station

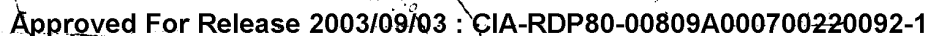
Transformer Station

Maintenance Station

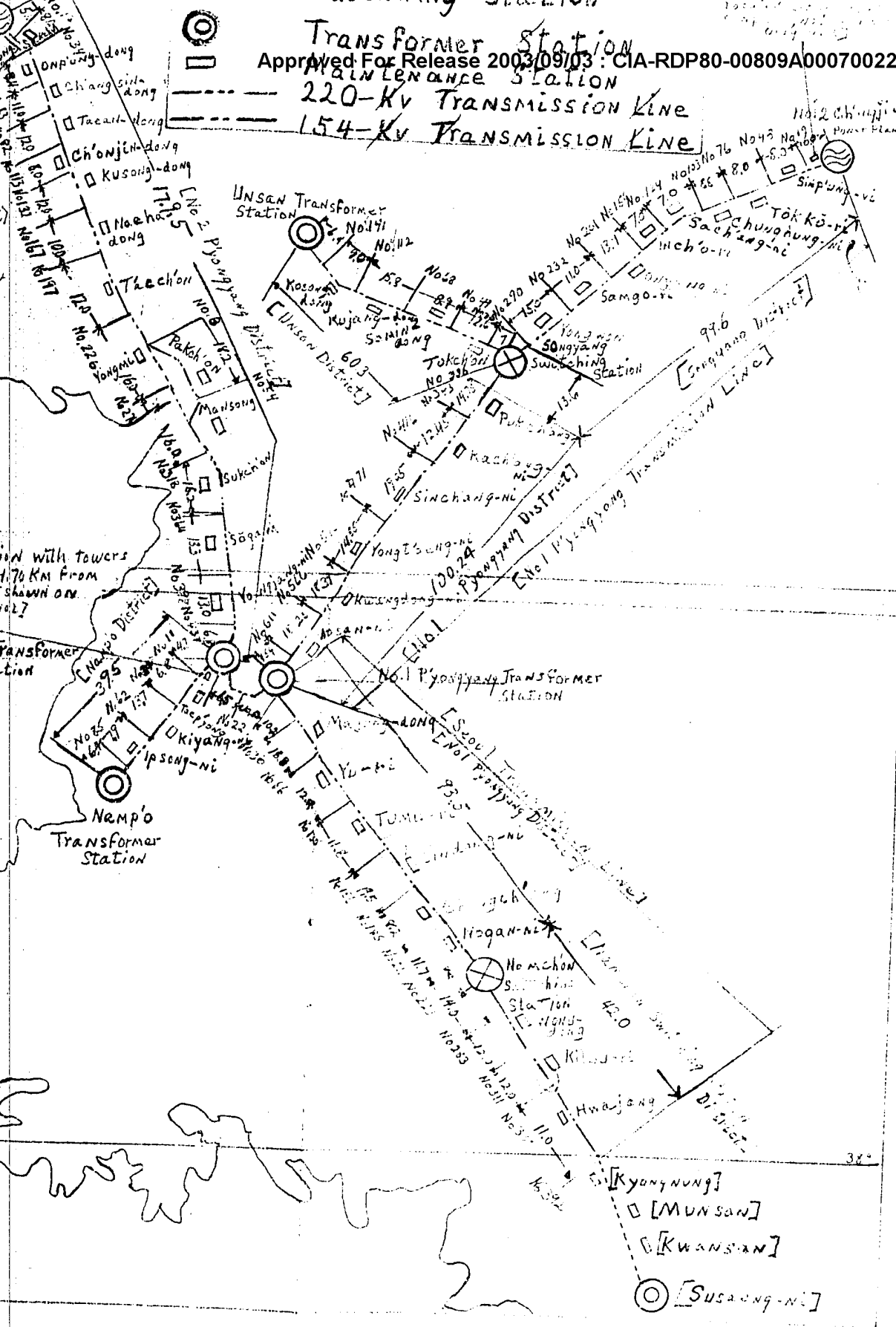
220-KV Transmission Line

154-Kv TRANSMISSION LINE

[Higgins station
with tower Apr 1-10
located 6 AM from
simpson; not shown on
original]



Transformer Station
Approved For Release 2003/09/03 : CIA-RDP80-00809A000700220092-1
Maintenance Station
220-KV Transmission Line
154-KV Transmission Line

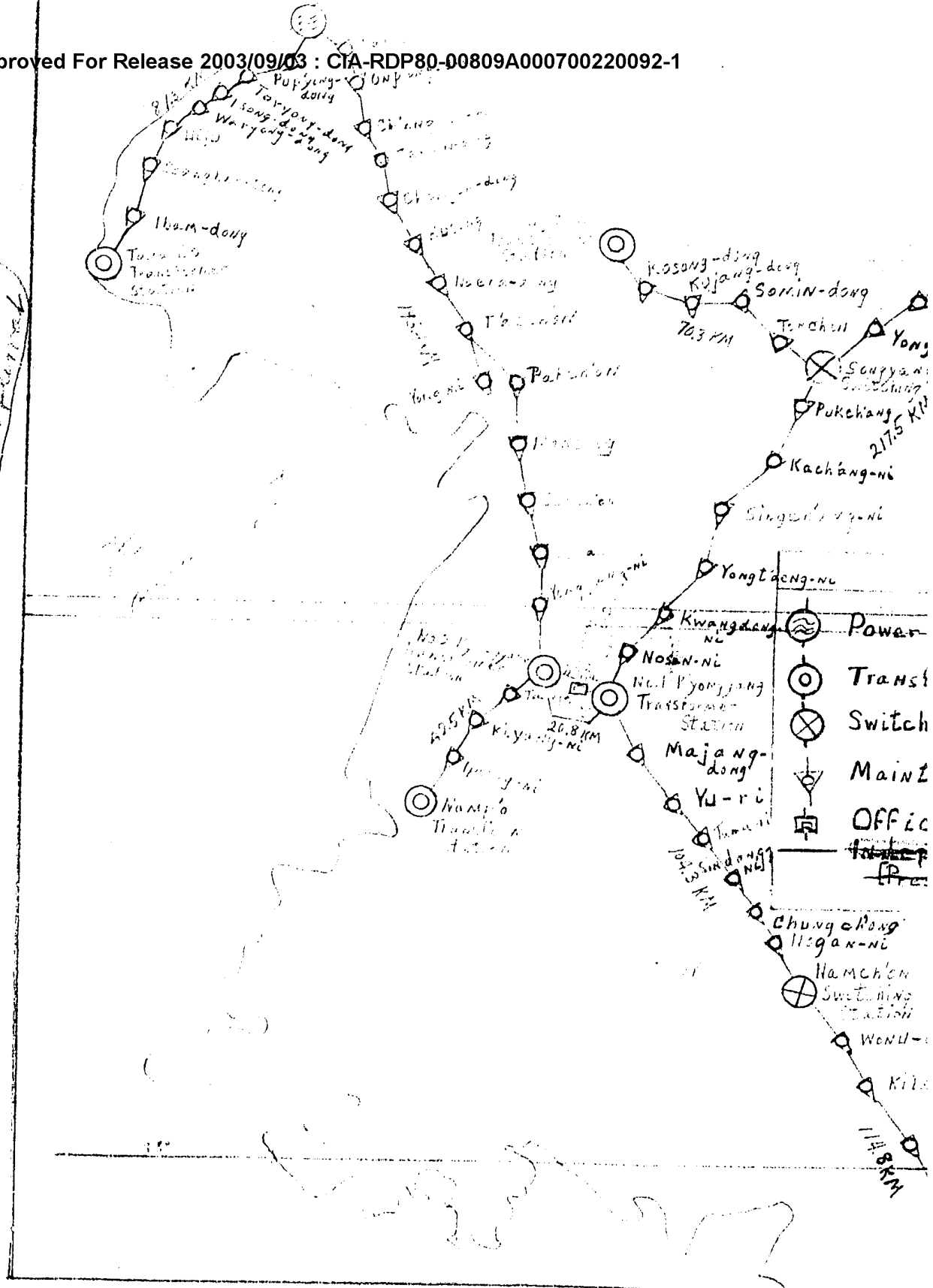


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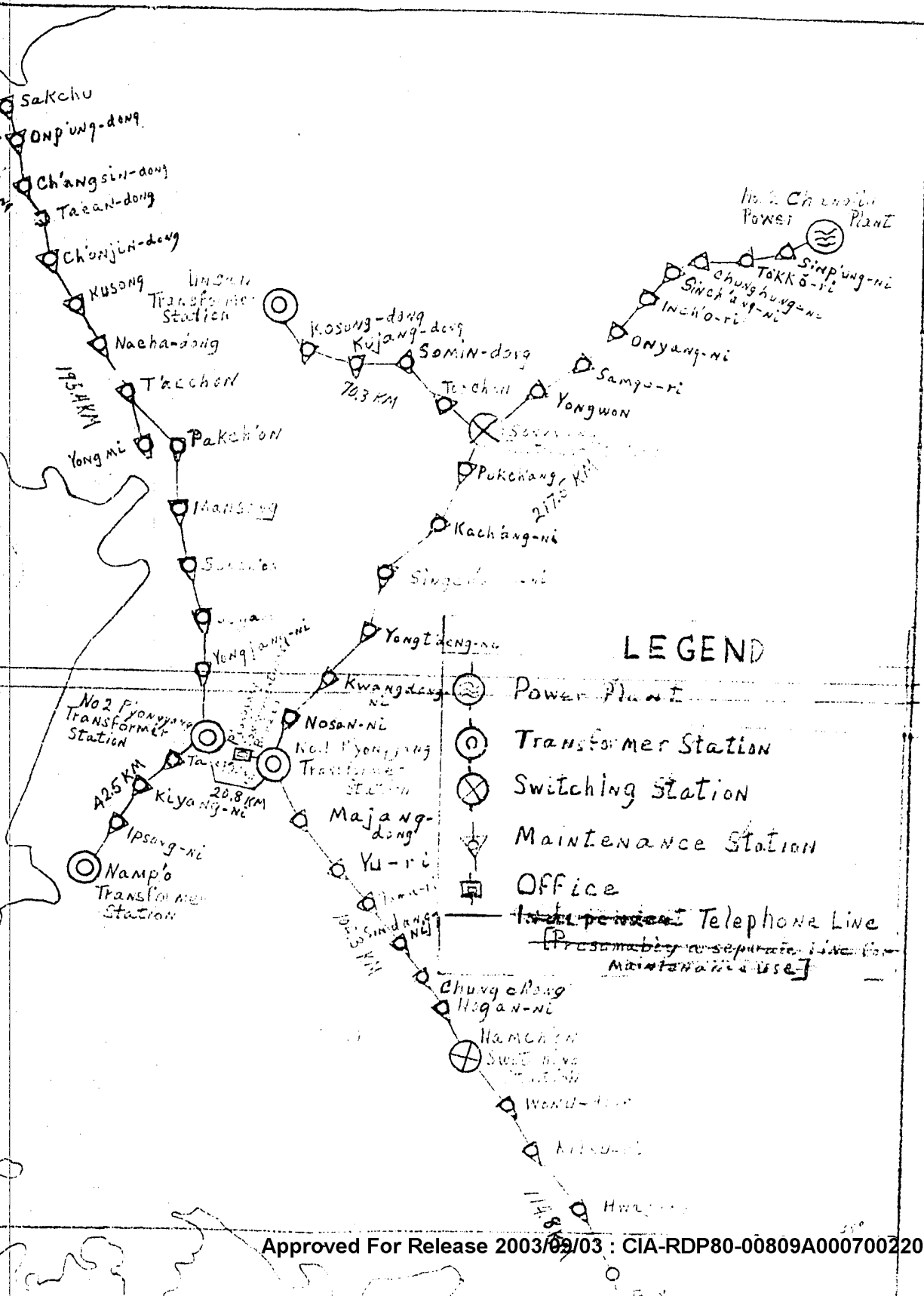
YINGYANG TRANSDUCER DEFECT UNIT



*Only 1-4 p.m.
to get contact
with telephone*



TELEPHONE NETWORK
Under JURISDICTION OF
YANGYANG TRANSMISSION DEPARTMENT





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